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REMARKS

The Applicants request reconsideration of the rejection.

Claims 13-16 are now pending.

Claims 13-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Brown et al U.S. Patent No. 6,148,404 (Brown) in view of Nolan et al U.S. Patent No. 6,640,278 (Nolan).

Without admitting to the propriety of the combination of Brown with Nolan, or the applicability of these references to the claims as alleged by the Examiner, the Applicants have amended independent claims 13 and 16 to more strongly and clearly distinguish the invention from the prior art based on the "server-less backup operation" disclosed, for example, in Figure 8. The left hand side of Figure 8 shows the known backup via a local-area network (LAN), wherein data is copied from one storage, such as a disk drive, to a backup storage, such as a tape unit, via the LAN. In comparison, the claimed server-less backup operation speeds up the operation by copying data directly from one storage to another via a storage area network (SAN), reducing the load on the servers connected to the SAN. Note that the LAN is not implicated at all in the server-less backup.

In contrast, to the extent proper, the combination of Brown and Nolan does not disclose a server-less backup, but would require that data be transferred as a background process

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from a first device 11 through a storage server 10 to a second device 12, using Nolan as an example.

Furthermore, the invention defines over the combination of references based on the feature set forth in dependent claim 15, as rejected. Note that claim 15 has been amended to provide better consistency with the amended version of independent claim 13, but the scope of limitations set forth in the rejected form of claim 15 has not been changed.

Claim 15 sets forth a novel "non-disruptive" backup operation in which one storage is provided with a primary volume and a secondary volume corresponding to the primary volume, by internal functions in the storage. When a backup copy of data in the primary volume is made to the backup storage, the secondary volume is created, the data is copied from the primary volume to the secondary volume, and the copy is then transferred from the secondary volume to the backup storage via the SAN without passing the LAN. Thus, writing can proceed to the primary volume during the backup from the secondary volume to the backup storage, without disruption.

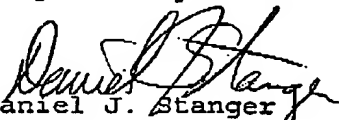
Independent claim 16 contains similar limitations regarding the non-disruptive backup, and thus has separate patentability, in addition to the arguments set forth above.

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In view of the foregoing amendments and remarks, the Applicants request reconsideration of the rejection and allowance of the claims.

Respectfully submitted,

  
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